Problem 1

Find and correct the mistakes in the below codes.

```
int a,b,e,f,x;
double d;
String name;
a=5;
b=1.5;      b=1;
d=1.5;
x="s";          string x;
c=a+b;          int c;
25=e;           e=25;
System.out.println("c = " + c);
Name="Java";
```

Problem 2

What will the value of "X" be after the following code executes?

```
Int a=10, b=20, x;
x=a+b;
a=b;
x=x+a+b;
                Answer: 70
```

```
x=10;
x=2*x;
x++;            Answer: 21
```

```
int a=5, b=5, x=10;
x=x+a+b;
x=x+a+b;        Answer: 30
```

```
int a, x=10;
a=x++
x=a+x;
                Answer: 21
```

```
int a, x=10;
a=++x;
x=a+x;          Answer: 22
```

Problem 3

What are the outputs of the following program?

```
int a; int b; int c; String x;
a=10; b=20;
System.out.print("a = " + a);
System.out.println(" b = " + b);
c=a+b;
c++;
System.out.println(c);
a=a*2;
a--;
c=a+b;
System.out.print(a + " + ");
System.out.print(c);
System.out.println("=" + (a+c));
x="end";
System.out.println(x);
```

```
a = 10 b = 20
31
19 + 39 = 58
end
```

Problem 4

Write a java program that calculates the **area**, and the **perimeter** of a circle. The **radius** is an integer number entered by the user.

The output of the program should appear as the following form

Area and Perimeter

Enter the radius : **10**
Area = **314.0**
Perimeter = **62.8**

```
int r;
 double a,p;
System.out.println("Area and Perimeter");
System.out.println("------------------");

System.out.print("Enter the radius : ");
 r=scan.nextInt();

a=3.14 *r*r;
p=2*3.14*r;

System.out.println("Area = " + a);
System.out.println("perimeter = " + p);
```

Problem 5

Write a java program that enters 2 integer numbers by the user and then calculates and displays their square and cube value (a a^2 a^3) on a separate line as shown in the simple below:

Input	**output**
5	5 25 125
3	3 9 27

Solution 1

```
int a,b;
System.out.println("Enter 2 numbers ");
a=scan.nextInt();
b=scan.nextInt();
System.out.println (a + " " + (a*a) + " " + (a*a*a));
System.out.println(b + " " + (b*b) + " " + (b*b*b));
```

Solution 2

```
Int a,b,s,c;
System.out.print("Enter a number ");
a=scan.nextInt();
s=a*a;
c=2*s;
System.out.println(a + " " + s + " " + c);
System.out.print("Enter a number ");
b=scan.nextInt();
s=b*b;
c=2*s;
System.out.println(b + " " + s + " " + c);
```

Problem 6

Write a java program that enters 2 integer numbers by the user, the program should calculate and display their sum if they are equals, and their double if they are different.

```
    int a, b;

System.out.println("Enter 2 numbers ");
a=scan.nextInt();
b=scan.nextInt();

if(a==b) {
   System.out.println(a+b);
}
else {
   System.out.println(2*(a+b));

}
```

Problem 8

Write a java program that enters three integers and determines if one of the integers is the midpoint between the other two integers; that is, if one integer is exactly halfway between them.
Your program should display "No midpoint" if no such midpoint relationship exists otherwise display the midpoint. The integers could be passed in any order; the midpoint could be the 1st, 2nd, or 3rd.

Example

1 2 3	2
6 4 8	6
20 30 10	20
7 9 2	No midpoint

```
int a, b, c, x;
System.out.println("Enter 3 numbers ");
a=scan.nextInt();
b=scan.nextInt();
c=scan.nextInt();
x=(a+b+c)/3;
if(x==a) {
   System.out.println("Midpoint = " + a);
}
else if(x==b) {
   System.out.println("Midpoint = " + b);
}
else if(x==c) {
   System.out.println("Midpoint = " + c);
}
else {
   System.out.println("No Midpoint");
}
```

Solution 2

```
int a, b, c, x;
System.out.println("Enter 3 numbers ");
a=scan.nextInt();
b=scan.nextInt();
c=scan.nextInt();
x=(a+b+c)/3;


if(a==x || b==x || c==x) {
   System.out.println("Midpoint = " + x);
}
else {
   System.out.println("No Midpoint");
}
```

Problem 9

Write a java program that enters 3 integer numbers by the user, and displays the maximum value of them.

```
int a, b, c;
System.out.println("Enter 3 numbers");
a=scan.nextInt();
b=scan.nextInt();
c=scan.nextInt();

if(a>=b && a>=c) {
   System.out.println("Maximum = " + a);
}
else if (b>=a && b>=c) {
   System.out.println("Maximum = " + b);
      }
else {
   System.out.println("Maximum = " + c);

}
```

Problem 10

Write a java program that enters 3 integer numbers by the user, and displays them in ascending order on the same line separated with commas.

```
int a, b, c;
System.out.println("Enter 3 numbers");

a=scan.nextInt();
b=scan.nextInt();
c=scan.nextInt();

if(a<=b && b<=c) {
   System.out.println(a + ", " + b + ", " + c);
}
else if(a<=c && c<=b) {
   System.out.println(a + ", " + c + ", " + b);

}
else if(b<=a && a<=c) {
   System.out.println(b + ", " + a + ", " + c);

}
else if(b<=c && c<=a) {
   System.out.println(b + ", " + c + ", " + a);

}
else if(c<=a && a<=b) {
   System.out.println(c + " ," + a + " ," + b);

}
else  {
   System.out.println(c + ", " + b + ", " + a);

}
```

Problem 11

Write a java program that enters an integer number and then displays if the number is ODD or EVEN.

The output of the program should appear as the following form

```
Enter a number: 10
10 is even
```

```
int a;
    System.out.print ("Enter a number ");
    a=scan.nextInt();
        if(a%2==0) {
       System.out.println (a + " is even");
    }
    else {
       System.out.println(a + " is odd");
     }
```

Problem 12

Write a java program that displays the word "SE2" 100 times.

```
int i=1;
     do{
        System.out.println("SE2");
      i++; (or i=i+1)
     } while(i<=100);
```

Problem 13

Write a java program that displays the sequence of numbers from 1 to 101 on the same line separated with a space.

1 2 3 4 till **101**

```
 int i;
    i=1;
    do {
          sop(i + " ");
          i=i+1;                    (or i++)
    }while(i<=101);
```

Problem 14

Write a java program that displays the sequence of numbers from 1 to 101 on the same line separated with a space.

1 3 5 7 till 101

```
int i;
   i=1;
   do{
        Sop(i + " ");
     i=i+2;
   }while(i<=101);
```

Problem 15

Write a java program that displays the sequence of numbers from 100 to 0 (every number should be on a new line).

100

90

80

…

0

```
   int i;
   i=100;
   do{
        sopln(i);
      i=i-10;
   }while(i>=0);
```

Problem 16

Write a program that **enters** an integer N and **display** all the even integers [0, N] (inclusive).

Sample Input	**Sample Output**
N=10	0 2 4 6 8 10
N=4	0 2 4
N=5	0 2 4

```
int n;
  sop("Enter N: ");
  n=scan.nextInt ();
  int i=0;
  do{
    sop(i + " ");
       i=i+2;
  }while(i<=n);
```

Problem 17

Write a java program that enters numbers of type integer then calculates and displays the square root of every number.

The program should stop when the user enters the number 1.

```
int a;
    do {
       System.out.print ("Enter a nb: ");
       a=scan.nextInt ();
       System.out.println (Math.sqrt (a));
    } while (a!=1);
```

Problem 18

Write a java program that enters numbers of type integer and then calculates and displays the sum of these numbers.

The program should stop when the sum becomes greater than 5000.

```
int a, s=0;

do{
   System.out.print("Enter a nb : ");
   a=scan.nextInt();
   s=s+a;
   System.out.println("Sum = " + s);
}while (s<=5000);
```